CLAIMS

1. Cable including at least one core comprising at least one transmissive element and at least one coating layer made from a coating material, wherein said coating material comprises:
   - at least a first polyethylene having a density not higher than 0.940 g/cm^3 and a Melt Flow Index (MFI), measured at 190°C with a load of 2.16 Kg according to ASTM D1238-00 standard, of between 0.05 g/10' and 2 g/10', said first polyethylene being obtained from a waste material;
   - at least a second polyethylene having a density higher than 0.940 g/cm^3.
2. Cable according to claim 1, wherein said first polyethylene has a density not lower than 0.910 g/cm^3.
3. Cable according to claim 1 or 2, wherein said first polyethylene has a density of between 0.915 g/cm^3 and 0.938 g/cm^3.
4. Cable according to any one of the preceding claims, wherein said first polyethylene has a Melt Flow Index (MFI), measured at 190°C with a load of 2.16 Kg according to ASTM D1238-00 standard, of between 0.1 g/10' and 1 g/10'.
5. Cable according to any one of the preceding claims, wherein said second polyethylene has a density not higher than 0.970 g/cm^3.
6. Cable according to any one of the preceding claims, wherein said second polyethylene has a density of between 0.942 g/cm^3 and 0.965 g/cm^3.
7. Cable according to any one of the preceding claims, wherein said coating layer is a cable external layer having a protective function.
8. Cable according to any one of the preceding claims, wherein said first polyethylene has a melting point lower than 130°C.
9. Cable according to claim 8, wherein said first polyethylene has a melting point of between 100°C and 125°C.

10. Cable according to any one of the preceding claims, wherein said first polyethylene has a melting enthalpy (ΔH_m) of between 50 J/g and 150 J/g.
11. Cable according to claim 10, wherein said first polyethylene has a melting enthalpy of between 80 J/g and 140 J/g.
12. Cable according to any one of the preceding claims, wherein said first polyethylene comprises a carbon black in an amount higher than 2% by weight with respect to the total weight of the polyethylene.
13. Cable according to claim 12, wherein said first polyethylene comprises a carbon black in an mount of between 2.5% by weight and 4.0% by weight with respect to the total weight of the polyethylene.
14. Cable according to any one of the preceding claims, wherein said first polyethylene is selected from low density polyethylene (LDPE), linear low density polyethylene (LLDPE), very low density polyethylene (VLDPE), or mixtures thereof.
15. Cable according to claim 14, wherein said first polyethylene is selected from mixtures of low density polyethylene with an amount not higher than 15% by weight with respect to the total weight of the polyethylene, of linear low density polyethylene.
16. Cable according to any one of the preceding claims, wherein said first polyethylene is present in the coating material in an amount of between 30% by weight and 90% by weight with respect to the total weight of the coating material.
17. Cable according to claim 16, wherein said first polyethylene is present in the coating material in an amount of between 40% by weight and 60% by weight with respect to the total weight of the coating material.
18. Cable according to any one of the preceding claims, wherein said second polyethylene a Melt Flow Index (MFI), measured at 190°C with a load of 2.16 Kg according to ASTM D1238-00 standard, of between 0.05 g/10' and 2 g/10'.

19. Cable according to any one of the preceding claims, wherein said second polyethylene has a Melt Flow Index (MFI), measured at 190°C with a load of 2.16 Kg according to ASTM D1238-00 standard, of between 0.1 g/10' and 1 g/10'.
20. Cable according to any one of the preceding claims, wherein said second polyethylene has a melting point higher than 120°C.
21. Cable according to claim 20, wherein said second polyethylene has a melting point of between 125°C and 165°C.
22. Cable according to any one of the preceding claims, wherein said second polyethylene has a melting enthalpy (ΔH_m) of between 125 J/g and 200 J/g.
23. Cable according to claim 22, wherein said second polyethylene has a melting enthalpy (ΔH_m) of between 130 J/g and 185 J/g.
24. Cable according to any one of the preceding claims, wherein said second polyethylene is a polyethylene obtained from waste material.
25. Cable according to claim 24, wherein said polyethylene obtained from waste material comprises an amount not higher than 15% by weight with respect to the total weight of the polyethylene, of polypropylene.
26. Cable according to any one of the preceding claims, wherein said second polyethylene is present in the coating material in an amount of between 10% by weight and 70% by weight with respect to the total weight of the coating material.
27. Cable according to claim 26, wherein said second polyethylene is present in the coating material in an amount of between 40% by weight and 60% by weight with respect to the total weight of the coating material.
28. Cable according to any one of the preceding claims, wherein said coating material comprises carbon black.
29. Cable according to claim 28, wherein said carbon black is added to the coating material in an amount of between 2% by weight and 5% by weight with respect to

the total weight of the coating material.

30. Cable according to claim 29, wherein said carbon black is added to the coating material in an amount of between 2.5% by weight and 4.0% by weight with respect to the total weight of the coating material.

31. Cable according to any one of the preceding claims, wherein said coating material is either crosslinked or non-crosslinked.

32. Cable according to claim 31, wherein said coating material is not crosslinked.

33. Process for producing a cable including at least one core comprising at least one transmissive element and at least one coating layer made from a coating material, said process comprising the steps of:

- providing at least a first polyethylene having a density not higher than 0.940 g/cm^3 and a Melt Flow Index (MFI), measured at 190°C with a load of 2.16 Kg according to ASTM D1238-00 standard, of between 0.05 g/10' and 2 g/10', in a subdivided form, said first polyethylene being obtained from a waste material;
- providing at least a second polyethylene having a density higher than 0.940 g/cm^3, in a subdivided form;
- conveying at least one core comprising at least one transmissive element into an extruding apparatus comprising a housing and at least one screw rotatably mounted into said housing, said housing including at least a feed hopper and at least a discharge opening;
- feeding said first and second polyethylenes to said extruding apparatus;
- melting and mixing said first and second polyethylenes in said extruding apparatus to form a homogeneous mixture;
- filtering said mixture;
- depositing said mixture onto said core comprising at least one transmissive element so as to obtain

the coating layer.

34. Process for producing a cable according to claim 33, wherein said first polyethylene has a density not lower than 0.910 g/cm^3.

35. Process for producing a cable according to claim 33 or 34, wherein said first polyethylene has a density of between 0.915 g/cm^3 and 0.938 g/cm^3.

36. Process for producing a cable according to any one of claims 33 to 35, wherein said first polyethylene has a Melt Flow Index (MFI), measured at 190°C with a load of 2.16 Kg according to ASTM D1238-00 standard, of between 0.1 g/10' and 1 g/10'.

37. Process for producing a cable according to any one of claims 33 or 36, wherein said second polyethylene has a density not higher than 0.970 g/cm^3.

38. Process for producing a cable according to any one of claims 33 to 37, wherein said second polyethylene has a density of between 0.942 g/cm^3 and 0.965 g/cm^3.

39. Process for producing a cable according to any one of claims 33 to 38, wherein said extruding apparatus is a single-screw extruder.

40. Process for producing a cable according to any one of claim 33 to 39, wherein said melting and mixing is carried out at a temperature of between 150°C and 250°C.

41. Process for producing a cable according to claim 40, wherein said melting and mixing is carried out at a temperature of between 120°C and 230°C.

42. Process for producing a cable according to any one of claims 33 to 41, wherein said first polyethylene and said second polyethylene are premixed before the step of feeding them to the extruding apparatus.

43. Process for producing a cable according to any one of claims 33 to 42, wherein said first polyethylene is defined according to any one of claims 8 to 17.

44. Process for producing a cable according to any one of claims 33 to 43, wherein said second polyethylene is defined according to any one of claims 18 to 27.

45. Process for producing a cable according to any one of claims 33 to 44, wherein said first polyethylene is obtained from a waste material in a subdivided form by means of a process comprising the following steps:

(a) sorting out the impurities optionally present in a waste material;

(b) feeding the waste material obtained in step (a) to a mill obtaining flakes having an average diameter of between about 0.1 cm and about 2.0 cm;

(c) washing the flakes obtained in step (b) in water and filtering the same in order to discard the impurities having a density higher than 1 kg/l;

(d) drying the flakes obtained in step (c) with warm and dry air;

(e) feeding the dried flakes obtained in step (d) to an extruding apparatus comprising a housing and at least one screw rotatably mounted into said housing, including at least a feed hopper and a discharge opening;

(f) melting and mixing said flakes obtaining a homogeneous mixture;

(g) filtering and granulating the homogeneous mixture obtained in step (f) obtaining a product in a subdivided form;

(h) cooling the product in a subdivided form obtained in step(g);

(i) drying the cooled product obtained in step (h) with warm and dry air.

46. Process for producing a cable according to claim 45, wherein the homogeneous mixtures obtained in step (f) is fed to a second extruding apparatus.

47. Process for producing a cable according to claim 45 or 46, wherein said extruding apparatuses are single-screw extruders.